REMARKS

Applicant would like to thank the Examiner for the thorough examination of the present application. Applicant would also like to thank the Examiner for correctly indicating as allowable the subject matter of dependent Claims 2, 4-8, 10-11, 15, 17-21, 24-25, 29, 31-35, 37-38, 42, 44-48 and 50-51.

The specification has been amended to correct minor grammatical errors. In addition, independent Claims 1 and 40 have been amended to address the claim informalities as helpfully noted by the Examiner. The arguments supporting patentability of the claims are provided in detail below.

I. The Claims Are Patentable

Independent Claims 1, 13, 27 and 40 have been rejected over the Lott et al. article in view of the Pritchett patent. The present invention, as recited in independent Claim 1, for example, is directed to a wireless communication network comprising a plurality of mobile nodes each comprising a transceiver, a phased array antenna connected to the transceiver, and a controller connected to the transceiver. The controller is for scheduling a respective semi-permanent time slot for each time frame to establish a communication link with each neighboring mobile node, with each time frame having up to N semi-permanent time slots and at least 2N-1 available time slots, and for scheduling the at least one available time slot to also serve the communication link with a neighboring mobile node based upon link communications demand.

The controller further aims the phased array antenna

toward each neighboring mobile node during communication therewith. Consequently, a plurality of communication links may be established within a scheduled semi-permanent time slot. As recited in independent Claim 1, each time frame has up to N semi-permanent time slots and at least 2N-1 available time slots. An advantage of limiting the number of semi-permanent time slots simplifies scheduling of the time slots.

Independent device Claim 13 is similar to independent device Claim 1 except the recitation of each time frame having up to "N semi-permanent time slots and at least 2N-1 available time slots" has been moved to a dependent claim. Independent method Claim 27 is similar to independent device Claim 13, and independent method Claim 40 is similar to independent device Claim 1.

Referring now to the Lott et al. article, Lott et al. discloses the scheduling of a respective semi-permanent time slot for each time frame to establish a communication link with a neighboring node while leaving at least one available time slot in each frame. In particular, Lott et al. discloses that a portion of the time slot is constantly reserved for high priority services. As correctly noted by the Examiner, Lott et al. fails to disclose that each mobile node comprises a transceiver, a phased array antenna (i.e., a directional antenna) and a controller. The Examiner cited the Pritchett patent as disclosing these features.

Pritchett discloses phased array antennas being used for establishing communication links within a network of wireless communication systems. The Examiner has taken the position that it would have been obvious at the time of the invention to modify Lott et al. to include a phased array

antenna, a transceiver and a controller for providing improved signal sensitivity and angular discrimination as disclosed by Pritchett.

Applicant respectfully disagrees and asserts that there is no proper motivation to modify Lott et al. in view of Pritchett in the manner set forth by the Examiner. Absent the Applicant's disclosure, one of ordinary skill in the art would not look to add a phased array antenna transceiver, a and a controller as disclosed in Pritchett to a mobile node as disclosed Lott et al.

This is particularly so since Lott et al. does not make any reference to the network geometry between the mobile nodes and the directionality of the communication links established therebetween. Lott et al. also fails to consider the impact of directional interference and fails to take into account how to avoid the interference to increase network throughput by allowing multiple nodes in close proximity to access the network simultaneously.

Pritchett discloses the acquisition, by a fixed initiating wireless communication system from a fixed receiving wireless communication system, of a list of the wireless communication systems operating in the network and a corresponding respective time slot list for each wireless communication system. A table is then created based upon the list for scheduling time slots among the wireless communication systems. This table is stored in memory, and includes direction values representing directions between a local node and the other nodes of the communication system.

Pritchett thus establishes a communication link between node pairs using directional antennas. Pritchett

discloses the use of allocated time slots, but fails to disclose any media access or link protocols or mechanisms that would allow such a network to function. Applicant thus asserts that only in hindsight, and having the benefit of the Applicant's disclosure, would the skilled artisan possibly be motivated to modify the Lott et al. article in view of the Pritchett patent.

Therefore, the Applicant submits that independent Claim 1 is patentable over the Lott et al. article in view of the Pritchett patent. Independent Claims 13, 27 and 40 are similar to independent Claim 1, and it is submitted that Claims 13, 27 and 40 are also patentable over the Lott et al. article in view of the Pritchett patent. In view of the patentability of the independent claims as discussed above, it is submitted that their dependent claims, which recite yet further distinguishing features, are also patentable over the prior art. Thus, these dependent claims require no further discussion herein.

In re Patent Application of:
CAIN
Serial No. **10/043,457**
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CONCLUSION

In view of the amendments to the claims and the arguments provided herein, it is submitted that all the claims are patentable. Accordingly, a Notice of Allowance is requested in due course. Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MAIL STOP AMENDMENT, COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, on this 12th day of May, 2004.

Justin Dorr